First Report of *Cacopsylla picta* as a Vector of Apple Proliferation Phytoplasma in Germany. B. Jarausch, N. Schwind, W. Jarausch, and G. Krczal, Centrum Grüne Gentechnik, SLFA Neustadt, D- 67435, Neustadt an der Weinstrasse, Germany; and E. Dickler and E. Seemüller, Biologische Bundesanstalt für Land- und Forstwirtschaft, D-69221 Dossenheim, Germany. Plant Dis. 87:101, 2003; published on-line as D-2002-1104-01N, 2002. Accepted for publication 18 October 2002.

Since 2000, a serious epidemic of apple proliferation (AP) reappeared in southwestern Germany. Molecular analyses revealed that the AP phytoplasma is associated with this disease. Since no curative treatments or resistant cultivars exist, the only means to reduce spread of the disease is the control of the insect vector. Recently, Frisinghelli et al. (1) identified *Cacopsylla costalis* as a vector of AP phytoplasma in northern Italy. Following this result, transmission trials with *C. picta* (synonym *C. costalis*) were conducted in southwestern Germany at Neustadt (Rheinland-Pfalz) and Dossenheim (Baden-Württemberg) since 2001. Overwintering psyllids were captured from March to May in different orchards. Groups of 5 to 30 *C. picta* were caged for 2 to 4 weeks on apple seedlings or healthy micropropagated plants. Leaf midribs of test plants were sampled 2 to 3 months after inoculation feeding and tested by polymerase chain reaction (PCR) for AP phytoplasma with specific primers AP5/AP4 (2). In 2001, 1 of 10 test plants, and in 2002, 7 of 40 test plants became AP infected. In 2002, one to four *C. picta* specimens fed on plants which became infected were tested AP phytoplasma positive by PCR while all psyllids recollected from PCR-negative plants were tested negative. Transmission of the AP phytoplasma was successful at both sites. To our knowledge, this is the first report of *C. picta* as a vector of the AP phytoplasma in Germany.

References: (1) C. Frisinghelli et al. J. Phytopathol. 148:425, 2000. (2) W. Jarausch et al. Appl. Environ. Microbiol. 60:2916, 1994.

First Report of the Pathogenicity of *Colletotrichum gloeosporioides* on Invasive Ferns, *Lygodium microphyllum* and *L. japonicum*, in Florida. K. A. Jones, USDA/ARS, Invasive Plant Research Laboratory, 3205 College Ave., Ft. Lauderdale, FL 33314; M. B. Rayamajhi, University of Florida, Ft. Lauderdale Research and Education Center, Ft. Lauderdale 33314; P. D. Pratt and T. K. Van, USDA/ARS, Invasive Plant Research Laboratory, 3205 College Ave., Ft. Lauderdale, FL 33314. Plant Dis. 87:101, 2003; published on-line as D-2002-1106-04N, 2002. Accepted for publication 25 October 2002.

Lygodium microphyllum (Cav.) R.Br. (Old World climbing fern) and *L. japonicum* (Thunb.) Sw. (Japanese climbing fern), in the family Schizaeaceae, are among the most invasive weeds in Florida (1). *L. microphyllum* invades fresh water and moist habitats in south Florida, while *L. japonicum* has spread in relatively well-drained habitats from Texas to North Carolina and central Florida. Some potted plants of both *Lygodium* spp. grown in shadehouse as well as in full sunlight developed discolored spots on pinnules (foliage), which coalesced and resulted in browning and dieback of severely infected vines. Symptomatic foliage obtained from these plants was surface-sterilized by immersing in a 15% solution of commercial bleach for 90 s, followed by a series of four rinses with sterile deionized distilled water. Disks (4 mm in diameter) of pinnules were cut from the junction of discolored and healthy tissues and placed on potato dextrose agar (PDA). A fungus, *Colletotrichum gloeosporioides* (Penz.) Penz. & Sacc. was consistently isolated from these disks. Fungal colonies produced abundant conidia on PDA. Conidia were hyaline, straight, cylindrical, averaging 14.7 µm (range 12.5 to 17.5 µm) × 5.0 µm (range 3.8 to 7.5 µm), and similar to those described for *C. gloeosporioides* (2). To confirm the pathogenicity of *C. gloeosporioides* on *L. microphyllum* and *L. japonicum*, Koch's postulates were performed. A fungal isolate was grown on PDA for 3 weeks, after which 10 ml of sterile deionized distilled water was added to the culture and agitated to dislodge conidia. The conidial suspension was strained through three layers of cheesecloth to remove hyphal fragments, and its concentration was adjusted to 1.7×10^6 conidia/ml. Foliage of healthy *L. microphyllum* and *L. japonicum* plants grown in 500-ml containers was sprayed with the conidial suspension until runoff. Plants were covered with plastic bags whose inner sides were misted with water to maintain high humidity and placed in a growth chamber under 12 h of fluorescent light per day. Temperature and relative humidity in the chamber ranged from 26 to 29°C and 44 to 73%, respectively. Plastic bags were removed after 3 days, and plants were further incubated for 3 weeks in the same growth chamber. Control plants were sprayed with sterile water, covered with plastic bags, and exposed to the same temperature, light, and humidity regime as those of the fungus-inoculated plants. Small, discolored foliar spots appeared 3 days after fungus inoculation. These spots were similar to those observed on pinnules of potted plants that originated from shadehouse and outdoor environments. Within 3 weeks after inoculation, the foliage of *L. japonicum* developed abundant discolored spots that led to edge browning and wilting of the pinnules. *L. microphyllum* had similar but more severe symptoms, with plants suffering as much as 50% dieback. *C. gloeosporioides* was consistently reisolated from the symptomatic tissues of both fern species. No symptoms appeared on the water-inoculated plants. To our knowledge, this is the first record of *C. gloeosporioides* pathogenicity on *L. microphyllum* and *L. japonicum*.

References: (1) R. W. Pemberton and A. P. Ferriter. Am. Fern J. 88:165, 1998. (2) B. C. Sutton. *Colletotrichum*: Biology, Pathology and Control. CAB International, Wallingford, Oxon, UK, 1992.

First Report of Wilt and Dieback on Pokeweed (*Phytolacca decandra*) Caused by *Phytophthora nicotianae*. A. Belisario, M. Maccaroni, and L. Corazza, Istituto Sperimentale per la Patologia Vegetale, 00156 Roma, Italy. Plant Dis. 87:101, 2003; published on-line as D-2002-1120-01N, 2002. Accepted for publication 8 November 2002.

Pokeweed (*Phytolacca decandra*, synonym *Phytolacca americana*) is a root perennial plant that produces a succulent annual stem. In late June 2001, a severe dieback occurred on a group of pokeweed plants being grown as ornamentals in a garden in Rome. Disease symptoms consisted of leaf wilting followed by collapse of the plant. Stem collars and roots had dark brown-to-black water-soaked lesions. A wet rot was observed on plants with advanced disease symptoms. Isolations, from sections of roots and stems previously washed in running tap water, were made on PARBhy selective medium (10 mg of pimaricin, 250 mg of ampicillin [sodium salt], 10 mg of rifampicin, 50 mg of hymexazol, 15 mg of benomyl, 15 g of malt extract, and 20 g of agar in 1,000 ml of H_2O) (2), followed by incubation at 20°C. A species of *Phytophthora* identified based on morphological and cultural characteristics (1) was isolated consistently from rotted roots and collars of diseased plants. All isolates produced papillate, spherical, ovoid to obturbinate, noncaducous sporangia and terminal and intercalary chlamydospores. Hyphal swellings with hyphal outgrowths were present. Observed characteristics were similar to those described for *P. nicotianae*. Isolates were mating type A2 with amphigynous antheridia in paired cultures with the A1 tester isolate of *P. nicotianae*. Identification was confirmed by comparing restriction fragment length polymorphism patterns of the internal transcribed spacer region of ribosomal DNA with those obtained from previously identified *Phytophthora* species. Pathogenicity tests were conducted on 10 2-month-old potted pokeweed plants. Inoculum was prepared by inoculating sterilized millet seeds moistened with V8 broth with plugs of mycelium and growing for 4 weeks. The inoculum was added to potting soil at 3% (wt/vol), and sporulation was induced by flooding the soil for 48 h. Five uninoculated plants were used as controls. Plants were maintained outdoors and assessed for symptoms within 2 months after inoculation. Wilting, root rot, and dark brown lesions on the collar developed on inoculated plants. The pathogen was reisolated from the inoculated plants and morphologically identical to the original isolates, which confirmed *P. nicotianae* as the causal agent of the disease. Few diseases have been reported on *Phytolacca decandra*. This species is not only an invasive weed, but is also cultivated as an ornamental and medicinal plant. In addition, antiviral (PAP) and antifungal (Pa-AFP) proteins that are used as a remedy for several human and plant infections have been extracted from the plant. To our knowledge, this is the first report of *P. nicotianae* on pokeweed.

References: (1) D. C. Erwin and O. K. Ribeiro. Phytophthora Diseases Worldwide. The American Phytopathological Society, St. Paul, MN, 1996. (2) A. M.Vettraino et al. Plant Pathol. 50:90, 2001.

(*Disease Notes* continued on next page)